

WASHINGTON DEPARTMENT OF ECOLOGY
ENVIRONMENTAL ASSESSMENT PROGRAM
FRESHWATER MONITORING UNIT
STREAM DISCHARGE TECHNICAL NOTES

STATION ID: 35M100
STATION NAME: Deadman Creek near Gould City
WATER YEAR: 2012
AUTHOR: Mitch Wallace

Introduction

Watershed Description

Deadman Creek is a left-bank tributary to the Snake River, opposite Central Ferry State Park. The creek drains the fertile agricultural highlands flanking the southern breaks of the Snake River in its northernmost bend into Washington State.

Gage Location

The station is located on the right side of the stream at the Deadman Creek road bridge, approximately 2.0 miles downstream from the confluence of the north and south forks of Deadman Creek.

Table 1. Basin Area and Legal Description

| | |
|---------------------------------------|---------------|
| Drainage Area (square miles) | 77 (USGS) |
| Latitude (degrees, minutes, seconds) | 46° 36' 0" N |
| Longitude (degrees, minutes, seconds) | 117° 36' 0" W |

Table 2. Discharge Statistics.

| | |
|---|------|
| Mean Annual Discharge (cfs) | 4.5 |
| Median Annual Discharge (cfs) | 4.3 |
| Maximum Daily Mean Discharge (cfs) | 11 |
| Minimum Daily Mean Discharge (cfs) | 0.80 |
| Maximum Instantaneous Discharge (cfs) | 16 |
| Minimum Instantaneous Discharge (cfs) | 0.50 |
| Discharge Equaled or Exceeded 10 % of Recorded Time (cfs) | 6.8 |
| Discharge Equaled or Exceeded 90 % of Recorded Time (cfs) | 2.1 |
| Number of Days Discharge is Greater Than Range of Ratings | 17 |
| Number of Days Discharge is Less Than Range of Ratings | 0 |
| Number of Un-Reported Days | 40 |
| Number of Days Qualified as Estimates | 97 |
| Number of Modeled Days | 0 |

Note: Statistics displayed in Table 2 may not include values in which the predicted discharge exceeds the range of ratings.

Table 2 Discussion (Discharge Statistics)

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| The unreported days can be attributed to rating curve exceedances and data which were deemed to be unreliable. |
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Table 3. Error Analysis Summary.

| | |
|--|------|
| Potential Logger Drift Error (% of discharge) | 16.7 |
| Potential Weighted Rating Error (% of discharge) | 11.3 |
| Total Potential Error (% of discharge) | 28.0 |

Table 3 Discussion (Error Analysis)

The potential logger drift error is a result of the mean daily flow difference between corrected and uncorrected data being greater than 20%.

Table 4. Stage Record Summary

| | |
|--------------------------------|------|
| Minimum Recorded Stage (feet) | 4.75 |
| Maximum Recorded Stage (feet) | 5.43 |
| Range of Recorded Stage (feet) | 0.68 |

Table 4 Discussion (Stage Record)

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| The terminal end was buried in silt. Portions of the data were deemed as unreliable due to the silt build-up in channel. |
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Table 5. Rating Table Summary

| | | | |
|------------------------------|---------------------|-------------------|--------------------|
| Rating Table No. | 14 | 112 | 15 |
| Period of Ratings | 10/1/11 to 10/17/11 | 10/1/11 to 2/1/12 | 1/25/12 to 5/21/12 |
| Range of Ratings (cfs) | 0.13 to 19 | 0.20 to 12 | 0.01 to 19 |
| No. of Defining Measurements | 1 | 8 | 3 |
| Rating Error (%) | 8.5 | 12.0 | 9.4 |

| | | | |
|------------------------------|--------------------|--|--|
| Rating Table No. | 121 | | |
| Period of Ratings | 5/20/12 to 9/30/12 | | |
| Range of Ratings (cfs) | 0.14 to 8.7 | | |
| No. of Defining Measurements | 11 | | |
| Rating Error (%) | 12.6 | | |

| | | | |
|------------------------------|--|--|--|
| Rating Table No. | | | |
| Period of Ratings | | | |
| Range of Ratings (cfs) | | | |
| No. of Defining Measurements | | | |
| Rating Error (%) | | | |

Table 5 Discussion (Rating Tables)

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| This site is susceptible to leaf litter accumulation on the control in the fall and early winter. |
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Table 6. Model Summary

| | |
|--|-----|
| Model Type (Slope conveyance, other, none) | n/a |
| Range of Modeled Stage (feet) | n/a |
| Range of Modeled Discharge (cfs) | n/a |
| Valid Period for Model | n/a |
| Model Confidence | n/a |

Table 6 Discussion (Modeled Data)

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|---------------------|
| Model was not used. |
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Table 7. Survey Type and Date (station, cross section, longitudinal)

| Type | Date |
|------------------------|------------|
| Sta., X-section, Long. | 10/17/2011 |

Table 7 Discussion (Surveys)

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Activities Completed

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Appendix